Torque Specifications

Description	Nm	lb-ft	lb-in
EGR vacuum regulator solenoid nuts	7	—	62
Differential pressure feedback EGR	7	—	62
Differential pressure feedback EGR — Bullitt	10	—	89
EGR valve bolts	10	—	89
EGR valve-to-exhaust manifold tube fitting	35	26	—
EGR tube-to-exhaust manifold fitting (except Bullitt)	40	30	—
EGR tube-to-exhaust manifold fitting	35	26	—
Vacuum accessory bracket fasteners	10	—	89
Air intake scoop bolts	25	18	—
Air intake scoop bracket bolt	25	18	—
Air intake scoop bracket nuts	25	18	—
Air intake scoop bracket throttle body nut	9	—	80
Exhuast gas recirculation (EGR) vacuum regulator solenoid bolts	10	—	89

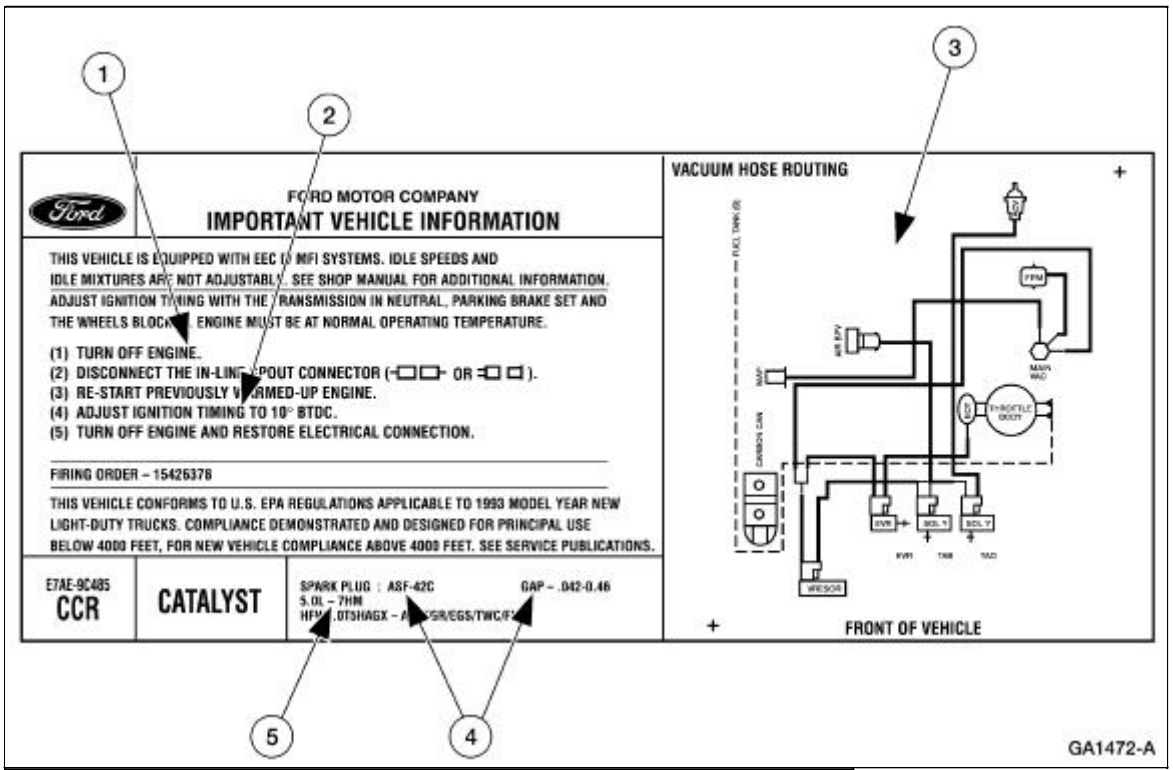
Engine Emission Control

CAUTION: Do not remove any part of the engine emission control system. Operating the engine without the engine emission control system will reduce fuel economy and engine ventilation. This will weaken engine performance and shorten engine life.

The engine emission control consists of the:

- positive crankcase ventilation (PCV) system.
- exhaust gas recirculation (EGR) system.

Typical Vehicle Emission Control Information (VECI) Decal


1
2
3
FORD MOTOR COMPANY
IMPORTANT VEHICLE INFORMATION
THIS VEHICLE IS EQUIPPED WITH EEC IV MFI SYSTEMS. IDLE SPEEDS AND
IDLE MIXTURES ARE NOT ADJUSTABLE. SEE SHOP MANUAL FOR ADDITIONAL INFORMATION.
ADJUST IGNITION TIMING WITH THE TRANSMISSION IN NEUTRAL, PARKING BRAKE SET AND
THE WHEELS BLOCKED. ENGINE MUST BE AT NORMAL OPERATING TEMPERATURE.
(1) TURN OFF ENGINE.
(2) DISCONNECT THE IN-LINE VACUUM CONNECTOR (OR).
(3) RE-START PREVIOUSLY WARMED-UP ENGINE.
(4) ADJUST IGNITION TIMING TO 10° BTDC.
(5) TURN OFF ENGINE AND RESTORE ELECTRICAL CONNECTION.
FIRING ORDER – 1-5-4-2-6-3-7-8
THIS VEHICLE CONFORMS TO U.S. EPA REGULATIONS APPLICABLE TO 1993 MODEL YEAR NEW
LIGHT-DUTY TRUCKS. COMPLIANCE DEMONSTRATED AND DESIGNED FOR PRINCIPAL USE
BELOW 4000 FEET, FOR NEW VEHICLE COMPLIANCE ABOVE 4000 FEET. SEE SERVICE PUBLICATIONS.
E7AE-9C485
CCR
CATALYST
SPARK PLUG : ASF-42C
5.0L – 7HM
GAP – .042-0.46
VACUUM HOSE ROUTING
FRONT OF VEHICLE
4
5
GA1472-A

Item	Part Number	Description
1	—	Adjustment procedure notes
2	—	Ignition timing specification
3	—	Engine vacuum hose routing (typical)
4	—	Spark plug gap specification
5	—	Engine type

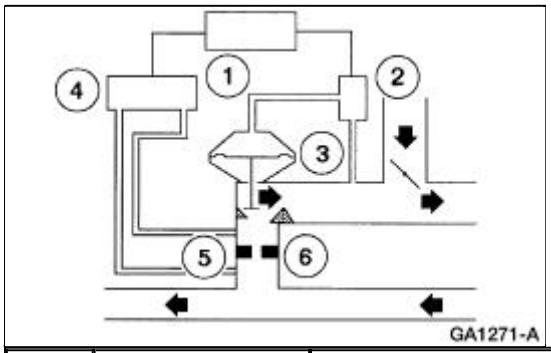
The Vehicle Emission Control Information (VECI) decal shows:

- the components of the emission control system.
- the correct vacuum hose routing.

- the color stripe of the vacuum hoses.

The PCV system uses the intake manifold vacuum to ventilate the crankcase and return the fumes to the intake manifold for combustion.

EGR System Components



Item	Part Number	Description
1	12A65	Powertrain control module
2	9J459	EGR vacuum regulator solenoid
3	9D475	EGR valve
4	9J433	EGR transducer
5	—	Metering orifice
6	9D477	EGR valve to exhaust manifold tube

The EGR system returns a portion of the exhaust gas to the intake manifold to reduce the combustion temperature. This results in lower nitrous oxide formation.

The powertrain control module (PCM) controls the EGR vacuum regulator solenoid . The EGR vacuum regulator solenoid controls the vacuum to the EGR valve. When the EGR valve opens, exhaust gas flows to the intake manifold. The EGR transducer measures the flow through the EGR valve to exhaust manifold tube and sends a signal to the powertrain control module. A metering orifice in the EGR valve to exhaust manifold tube restricts the flow rate when the EGR valve is open.

The PCV valve:

- controls the amount of ventilating air and blow-by gases going to the intake manifold.
- prevents a backfire from reaching the crankcase.

The EGR valve to exhaust manifold tube:

- connects the exhaust manifold to the EGR valve.
- has two tubes connecting to the EGR transducer for EGR flow monitoring.

The EGR transducer:

- monitors the EGR flow rate through the EGR valve to exhaust manifold tube.
- sends an EGR flow rate signal to the powertrain control module.

The EGR vacuum regulator solenoid uses input from the powertrain control module to change the EGR valve operation.

Engine Emission Control

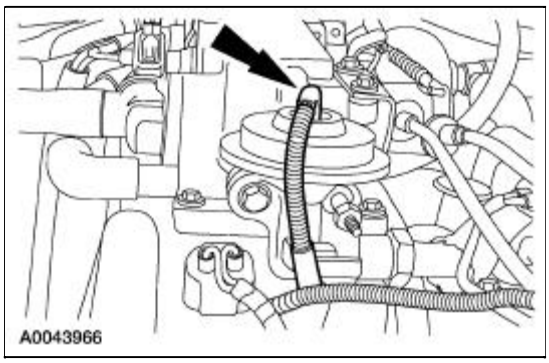
Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

Exhaust Gas Recirculation (EGR) Valve

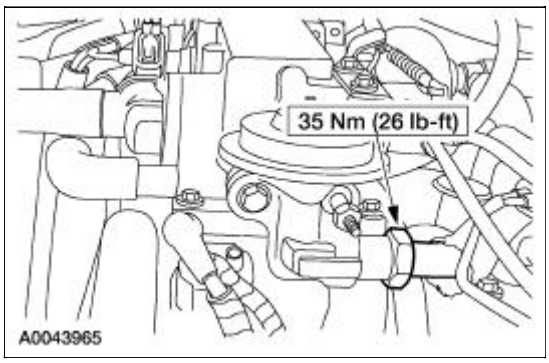
Removal and Installation

NOTE: The 4.6L, 2V is shown. The 3.8L is similar.

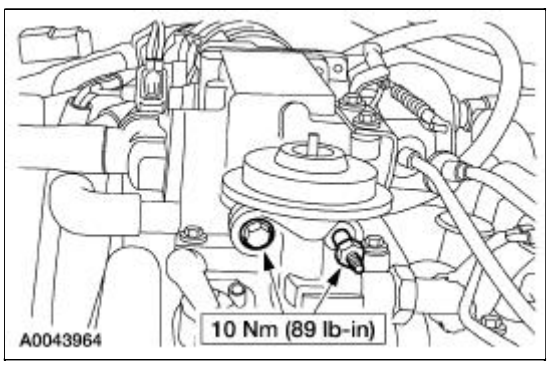
1. Disconnect the vacuum hose.



2. Disconnect the EGR tube from the EGR valve.



3. Remove the two bolts, the EGR valve and the gasket.



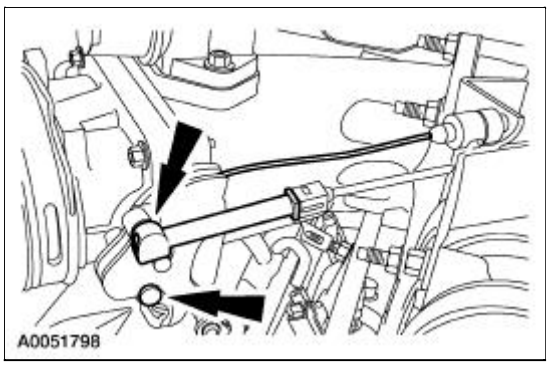
4. **NOTE:** Install a new gasket.

   To install, reverse the removal procedure.

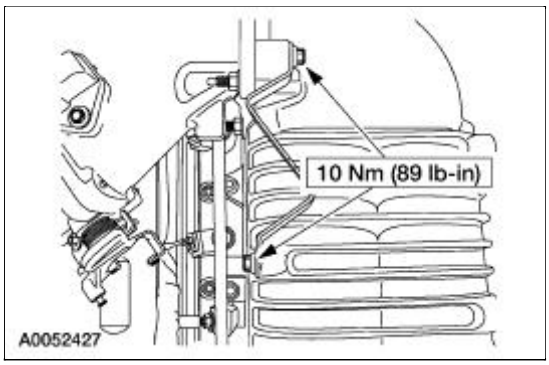
Exhaust Gas Recirculation (EGR) Valve —Cobra

Removal and Installation

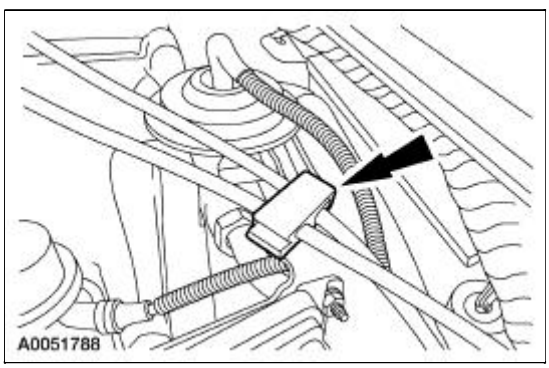
1. Disconnect the accelerator cable and the speed control cable.



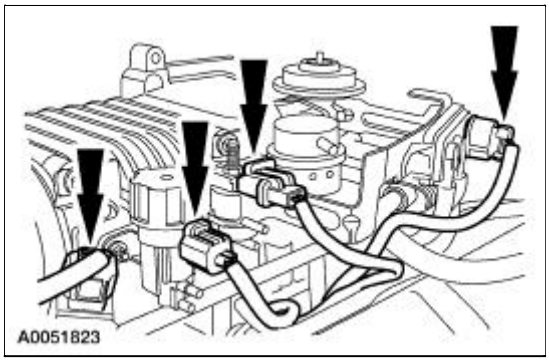
2. Remove the accelerator cable bracket bolts.



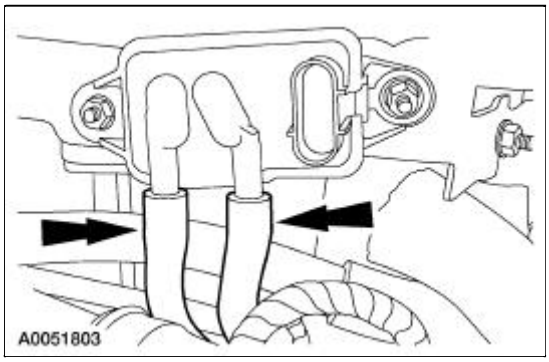
3. Release the clip and position the accelerator cable bracket and the cables aside.



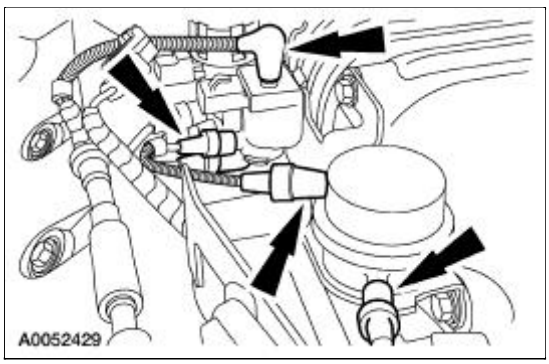
4. Disconnect the electrical connectors from the fuel pulse damper, EGR vacuum regulator solenoid, supercharger bypass vacuum solenoid, and the differential pressure feedback EGR system.



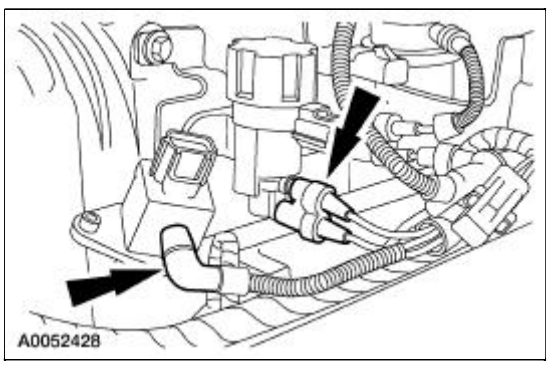
5. Disconnect the vacuum hoses from the differential pressure feedback EGR system.



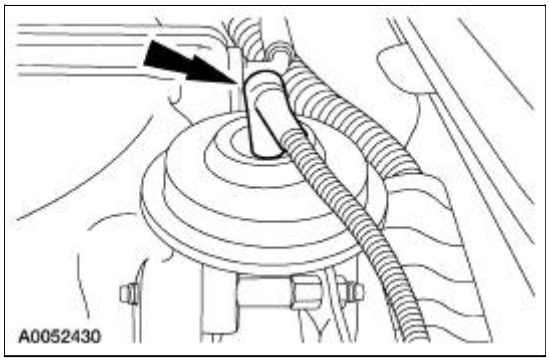
6. Disconnect the vacuum hoses from the supercharger bypass vacuum solenoid, and the actuator.



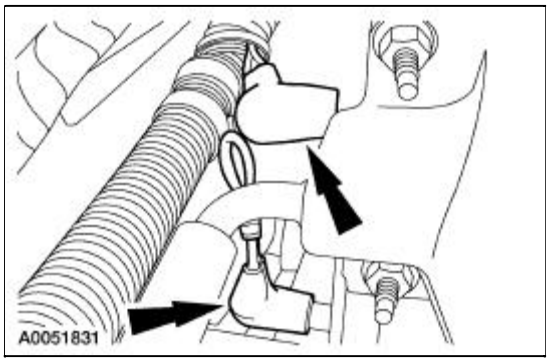
7. Disconnect the vacuum hoses from the fuel pulse damper and the EGR vacuum regulator solenoid.



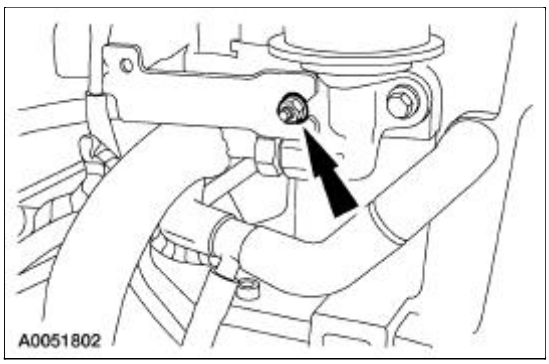
8. Disconnect the vacuum hose from the EGR valve.



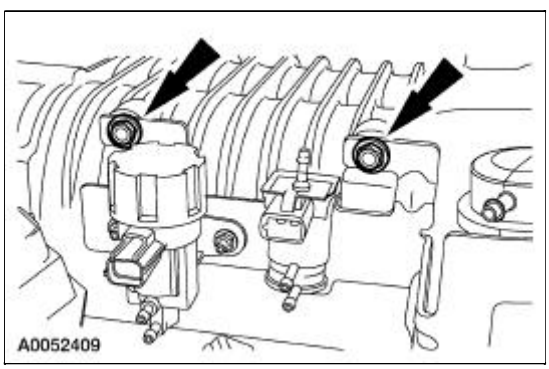
9. Disconnect the vacuum hoses at the back of the supercharger and position the vacuum harness aside.



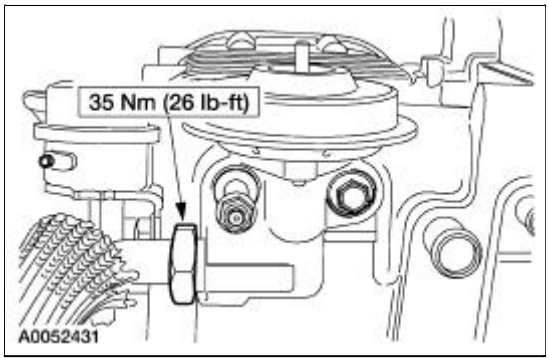
10. Remove the vacuum accessory bracket mounting nut.



11. Remove the mounting bolts, and the vacuum accessory bracket.

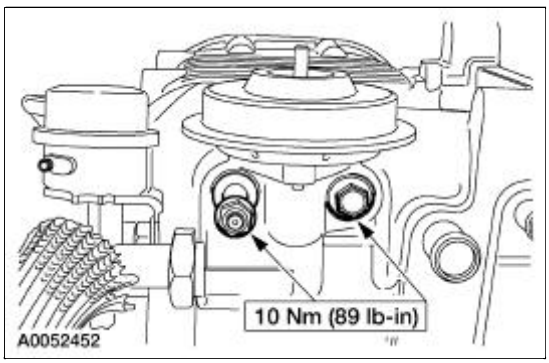


12. Disconnect the exhaust manifold to EGR valve tube.



13. **NOTE:** Discard the EGR valve gasket.

    Remove the mounting bolts and the EGR valve.



14. **NOTE:** Install a new EGR valve gasket.

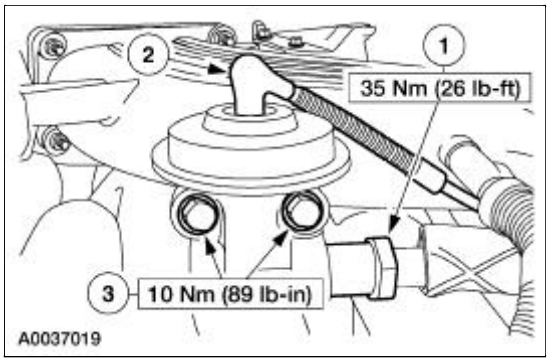
    To install, reverse the removal procedure.

Exhaust Gas Recirculation (EGR) Valve —Mach I

Removal and Installation

1. Remove the air intake scoop. For additional information, refer to Section 303-12 .

2. Remove the exhaust gas recirculation (EGR) valve.
    1. Disconnect the EGR tube upper fitting.
    2. Disconnect the vacuum hose.
    3. Remove the two bolts and remove the EGR valve and gasket.



3. **CAUTION: Do not use metal scrapers, wire brushes, power abrasive disks or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges, which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.**

    Clean and inspect the mating surfaces.

4. To install, reverse the removal procedure.
    - Install a new gasket.

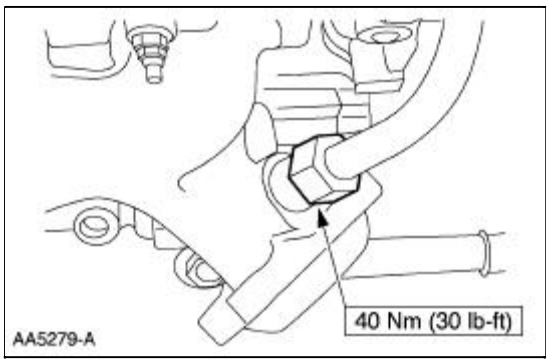
Exhaust Manifold to Exhaust Gas Recirculation (EGR) Valve Tube

Removal and Installation

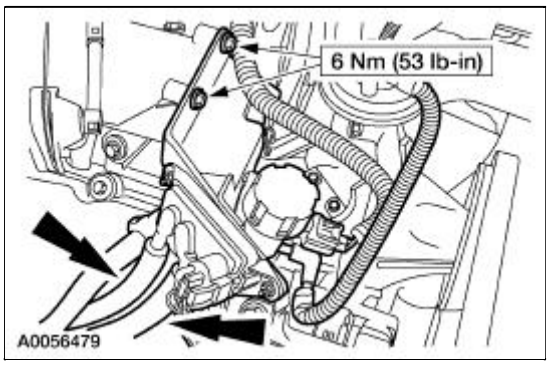
NOTE: 3.8L shown, 4.6L (2V) similar.

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02 .

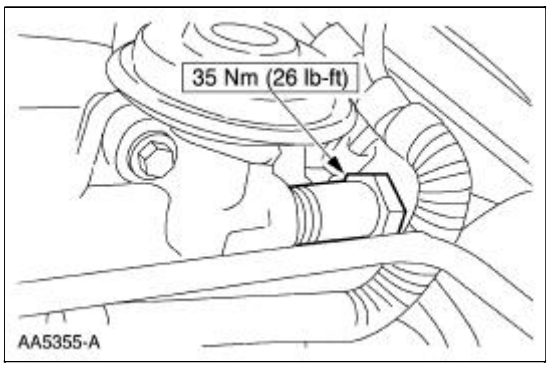
2. Disconnect the exhaust gas recirculation (EGR) valve tube from the exhaust manifold.



3. Remove the differential feedback exhaust gas recirculation (EGR) system vacuum hoses and the bracket bolts. Position the bracket assembly aside.



4. Disconnect the EGR tube from the EGR valve.



5. Remove the exhaust manifold-to-EGR valve tube.

6. To install, reverse the removal procedure.

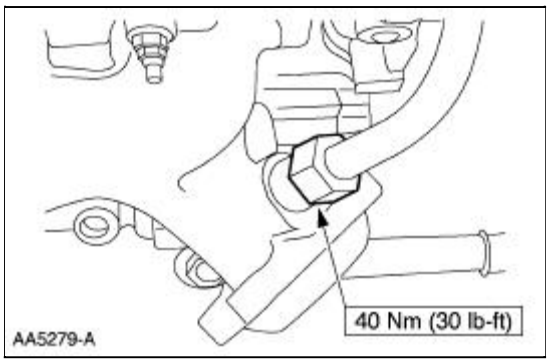
Exhaust Manifold to Exhaust Gas Recirculation (EGR) Valve Tube —Cobra

Removal and Installation

1. Remove the EGR valve. For addditional information, refer to Exhaust Gas Recirculation (EGR) Valve—Cobra in this section.

2. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02 .

3. Disconnect the exhaust manifold to EGR valve tube.



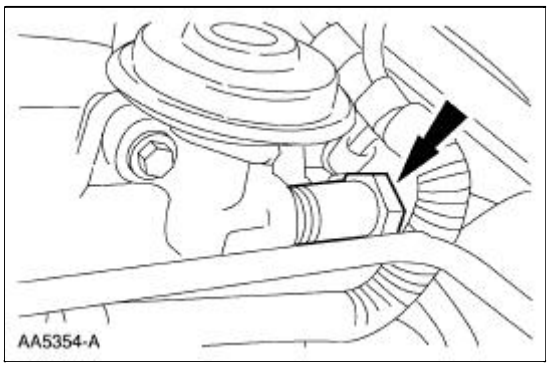
4. Remove the exhaust manifold to EGR tube from the engine compartment.

5. To install, reverse the removal procedure.

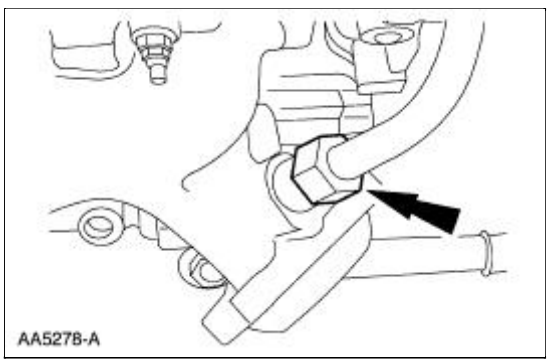
Exhaust Manifold to Exhaust Gas Recirculation (EGR) Valve Tube —Mach I

Removal

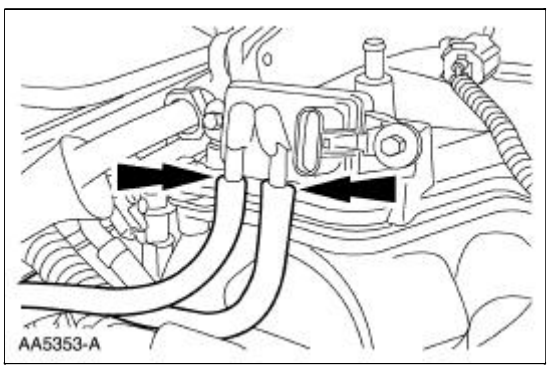
1. Remove the air intake scoop. For additional information, refer to Section 303-12 .
2. Disconnect the exhaust gas recirculation (EGR) tube from the EGR valve.



3. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02 .
4. Disconnect the EGR tube from the exhaust manifold.

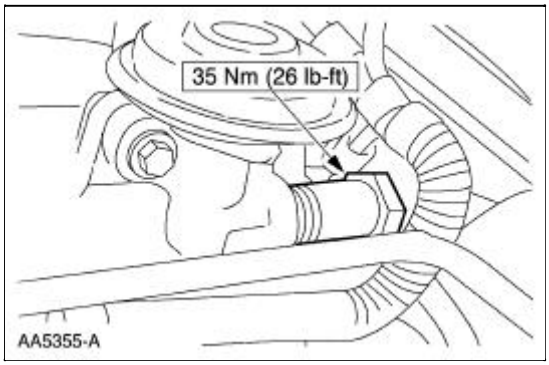


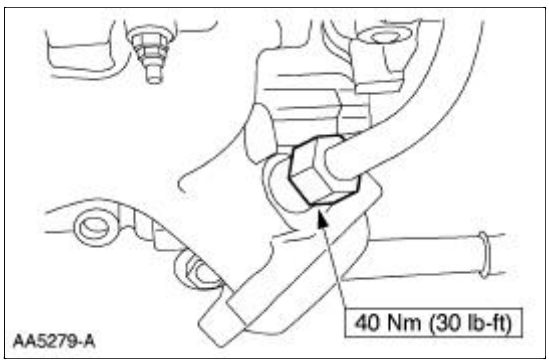
5. Disconnect the hoses and remove the tube from the vehicle.



Installation

1. To install, reverse the removal procedure.





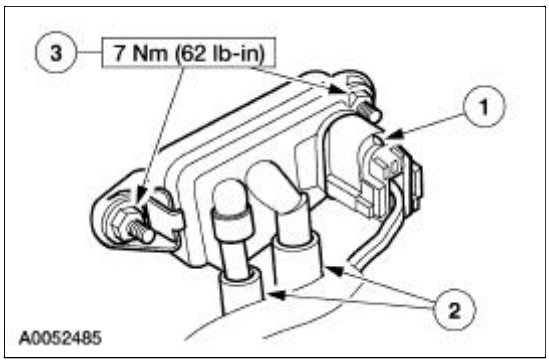
Differential Pressure Feedback Exhaust Gas Recirculation (EGR) System

Removal and Installation

1. **NOTE:** The 4.6L (2V) is shown. The 4.6L (4V) and 3.8L are similar.

   NOTE: Bolts may be used in place of nuts on some applications.

   Remove the differential pressure feedback EGR.
   1. Disconnect the connector.
   2. Remove the hoses.
   3. Remove the nuts and the differential pressure feedback EGR.

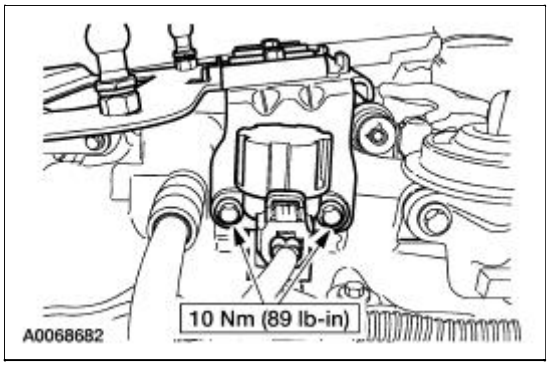


2. To install, reverse the removal procedure.

Exhaust Gas Recirculation (EGR) Vacuum Regulator Solenoid

Mach I vehicles

1. Remove the air intake scoop. For additional information, refer to Section 303-12 .



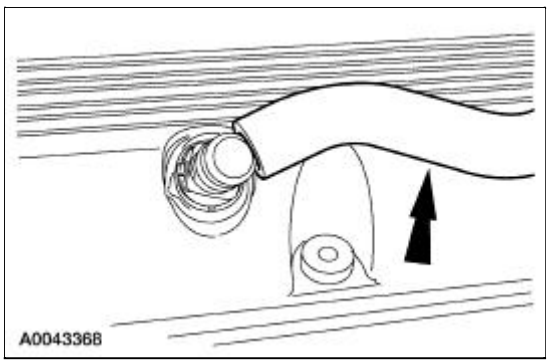
All vehicles

2. Remove the exhaust gas recirculation (EGR) vacuum regulator solenoid.
   - Disconnect the electrical connector.
   - Remove the bolts.
3. To install, reverse the removal procedure.

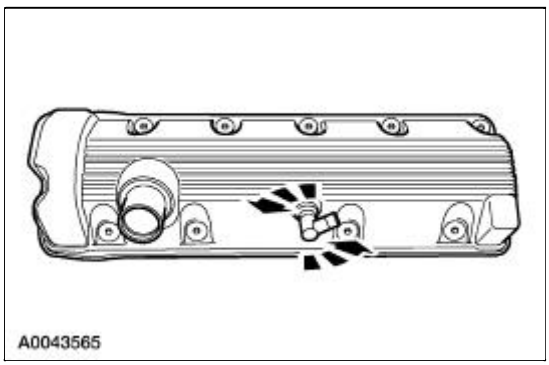
Positive Crankcase Ventilation (PCV) Hose

Removal and Installation

1. Disconnect the hose on the PCV valve.



2. Twist and remove the PCV valve.



3. To install, reverse the removal procedure.